

CLAIMS

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1. A flexible surgical implant for repairing damaged hyaline cartilage in a mammalian joint, comprising:

- a. an anchoring portion which allows secure fixation of the anchoring portion to a prepared hard bone surface area from which a damaged segment of native cartilage has been removed, wherein the anchoring portion is provided with or designed to interact with at least one anchoring protrusion which will extend into accommodating bone and which will allow a properly anchored implant to resist shear stresses of a type and magnitude that will be encountered in the joint being repaired; and,
- b. a bearing surface portion having a lubricious articulating surface.

2. The flexible surgical implant of Claim 1, wherein the bearing surface portion comprises a hydrogel.

3. The flexible surgical implant of Claim 1, wherein the anchoring portion comprises a plurality of anchoring protrusions.

4. The flexible surgical implant of Claim 1, wherein the anchoring portion comprises a main body having a plurality of anchoring pins coupled to the main body by flexible means which allow the anchoring pins to be folded against the main body during insertion into the joint being repaired.

5. The flexible surgical implant of Claim 1, wherein the anchoring portion and the bearing surface portion are separate components prior to implantation, and wherein the bearing surface portion is designed to be inserted into a joint by a surgeon and then securely affixed to an anchoring portion which has previously been affixed to a prepared hard bone surface inside the joint.

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6. The flexible surgical implant of Claim 5, wherein the anchoring portion comprises:

(i) an anchoring layer component which is designed to be pressed against a hard bone surface, and which is provided with a plurality of anchor pin holes; and,

(ii) a plurality of anchor pins which can be driven through the anchor pin holes and into a hard bone surface.

7. The flexible surgical implant of Claim 5, wherein the anchoring portion comprises a rim which is sufficiently flexible to allow the rim to be squeezed into an elongated form having a width of about 75% or less of its normal relaxed width.

8. The flexible surgical implant of Claim 5, wherein the anchoring portion comprises a layer which is sufficiently flexible to allow it to be rolled into a cylindrical arc wherein the opposed edges of the arc have an angular displacement of 110 degrees or less.

9. The flexible surgical implant of Claim 1, wherein the anchoring portion and the bearing surface portion are fabricated together as a single implant which is sufficiently flexible to allow it to be rolled into a cylindrical arc wherein the opposed edges of the arc have an angular displacement of 110 degrees or less.

10. A surgical implant for repairing damaged hyaline cartilage in a mammalian joint, comprising:

a. at least one anchoring component which can be inserted into a prepared accommodating hard bone surface from which a damaged segment of native cartilage has been removed, wherein the anchoring component is capable of allowing a properly anchored implant to resist shear stresses of a type and magnitude that will be encountered in the mammalian joint being repaired, and wherein the anchoring component is made of a porous material that promotes osseous tissue ingrowth to establish stronger anchoring

as such tissue ingrowth occurs; and,

b. a bearing surface portion having a lubricious articulating surface.

11. The surgical implant of Claim 10 wherein the bearing surface portion comprises a synthetic hydrogel.

12. The surgical implant of Claim 10 wherein the bearing surface portion comprises a synthetic porous hydrophilic polymer.

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